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Poverty and Under-nutrition among Scheduled Tribes in India: A Disaggregated Analysis

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Abstract

This paper addresses twin issues--- poverty and under-nutrition among the STs in India at disaggregated levels. Following the draft tribal policy, districts in Schedule VI states as well districts under Schedule V have been identified. The district level poverty incidence and incidence of hunger and under-nutrition for the districts are calculated for 1993-94 and 2004-05. Normative calorie requirement for STs is estimated using age-sex-activity patterns as recommended in the Task Force report (GOI, 1979). In these calculations, unit record data on household Consumption Expenditure and Employment and Unemployment for 50th and 61st quinquennial rounds have been used. The analysis in this paper suggests that group dominance plays an important role in participation in growth and distribution and improving the level of living.

1. Introduction

The main objective of this paper is to document the poverty and under-nutrition among the districts in India that are inhabited largely by indigenous population groups, referred to as ***Scheduled Tribes (STs)*** or ***Adivasis***.[1] It is fairly well documented that the well being of social groups in India differs. Recent researches have tried to quantify the disparities in level of living of various population groups. As a population group, **Scheduled Tribes (STs)** are at the bottom on a range of development indicators including consumption and poverty (de Haan and Dubey (2005); GOI (2007); Newman and Thorat (2009)).

A large part of this literature relies on complex Indian social structure, the **Hindu *Varna System*,** for explaining the disparities. It is argued that the Hindu ***Verna System*** evolved into a social structure and process that has traditionally excluded, discriminated, and isolated groups of population on the basis of their caste, ethnicity and religion. There are several such groups identified on the basis of their caste, the untouchables or ***scheduled castes*** (SCs). The other group is recognized on the basis of their ethnicity, the ***STs.***[2] The SCs are larger group between the two, accounting for nearly 17 percent of Indian population. It is argued that their exclusion is a direct consequence of the Hindu social order. The caste system as a form of social structure is based on the division of people into a distinct social group, or caste with unequal rights. That got institutionalized and is said to be the cause of multiple exclusions that have severe consequence on their deprivation and poverty.

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[1] Although the term ST is used here to denote, implicitly, a single population group but in reality there are thousands of scheduled tribes spread over length and breadth of the country defined in the Indian constitution. Each one of these tribes are different from the others in their socio-cultural, linguistic and religious characteristics.

[2] The terms Scheduled Caste and Scheduled Tribe are of relatively recent origin and include caste and tribes notified by the Government of India.

This rigid structure remained in place despite influences brought about by other religions, especially Islam and Christianity which were introduced by outsiders and a few indigenous religious groups, notably Sikhism, Buddhism and Neo-Buddhism. Within each one of these groups, caste structure remains relatively rigid even though some of these religious denominations tried to shun the caste and advocated equality.

In this paper the focus is on deprivations, especially in consumption, it would suffice to note that the four broad categories that emerge by identifiable social groups are STs, SCs, Other Backward Classes (OBCs) and a residual group identified as Others (OTH) (comprising of mostly the so called Forward Castes). Among the Hindus, the last three, i.e. SCs, OBCs and OTH, are considered directly as consequence of Hindu ***Varna System.*** The available welfare indicators for these three groups show that, on an average, SCs are worse off group and OBCs lie within SCs and OTH.

The other excluded group mentioned above, the STs (also called ***Adivasis*** or Tribals) appear to have been excluded from detailed analysis. While most of the STs have remained outside the purview of rigid Hindu hierarchal social structure, in terms of the welfare indicators, they are, on the average lower than even the SCs. Though scattered over the geographical domain of India, there are regions where STs have very high to moderate concentration. Their exclusion is a consequence of geographical isolation as these groups inhabit hills and forest areas that have been considered remote and not easily accessible. However, unlike SCs, there are thousands such groups scattered across the length and breadth of India with a diverse socio-cultural and economic organization.

During the post independence period, though, STs were provided with the Constitutional safeguards including reservation in the government jobs besides a separate administrative structure that is still evolving. For example, the draft National Tribal Policy document is under circulation and being debated (GOI, 2006). One of the key safeguards in governance of the STs is provided in the Fifth and the Sixth Schedule of Indian Constitution. Under the Sixth Schedule, entire state has different set of governance provisions provided that state is inhabited predominantly by STs. The fifth schedule, on the other hand, is applicable at the district level. This provides for administration and control of Scheduled Areas (falling under Schedule V) and gives powers to the Governors to make regulations for the peace and good governance of the schedule areas inhabited by the STs.

In this paper I have identified the districts that have sizeable ST population and calculated the level of living, poverty and undernutrition. The rest of the paper is organised in the following fashion. In the next section, a brief description of the data used and distribution of ST population is discussed. This is followed by the level of living and poverty incidence among STs vis-à-vis other (OTH) population groups at aggregate level in section 3. In section four, the analysis is repeated at the district level. Findings of the paper and policy issues are summarised in section five.

2. Data Related Issues

The quantitative assessment of deprivations and disparities requires a set of comparable data across different social groups. In this paper we have used household level data collected by the National Sample Survey Organisation (NSSO) to investigate the disparities in consumption, poverty incidence and malnutrition among the STs. The consumption expenditure data has been collected during two recent and comparable surveys conducted by the NSSO. The reference

periods are July 1993 to June 1994, and July 2004 to June 2005. These are also referred to as the 50th and 61st round quinquennial surveys, respectively.

The households in these surveys are identified using a two stage stratified sampling design. Therefore, weights or multipliers are an integral part of the data.[3] The quinquennial rounds of NSSO surveys cover almost the entire territory of India except some inaccessible areas that are less than 0.01 percent of the Indian Territory and even lower proportion of population. The consumption expenditure data is used in conjunction with the employment and unemployment surveys which has the same reference period. In addition, we have also used some information from Indian census but it is limited to the study of the distribution of ST population across districts in India.

Table 1: Distribution of Population STs across Districts (Census)

Pop Share of STs	Distribution of Dist (no.)
Nil	**94**
0.1 to 5	**165**
5 to 10	**44**
10 to 20	**52**
20 to 50	**47**
50 to 75	**21**
75 to 100	**30**

Source: Tabulation by the author from Census of India, 1991 district data.

Table 1 above has distribution of ST population across districts in India taken from 1991 census. There are about 21% districts (94 out of 453 districts in 1991 census) without a single ST household. Another 36% districts have less than 5% of ST population and only 51 districts (just over 12% of the total districts) have 50% or more ST population with only about 30 districts with 75% or more ST population. In this last category, out of 30 districts, only one district, Jhabua in Madhya Pradesh, has about 86% ST population and located in central part of India. Thus, unlike SCs which have on an average 18-20 percent share in population in most of the districts in plains or major states (there are about 70 districts in India which have less than 5% SC population but these districts are located in north-eastern states and other smaller states union territories).

The point that emerges from the distribution of ST population across districts is that unlike the distribution of SCs among the districts in most part of India, ST population is concentrated only in a few, just about 50-60 districts. Also, unlike SCs who have no numerical majority in any of the districts, STs have in over 50 districts. Recent literature points out towards the caste dominance as one of the leading factors in determining the participation in growth. As SCs could never have such dominance given their distribution pattern in the population, their limited participation in growth and in the share of the cake is understandable. In case of STs, this issue has not figured in the discourses.

[3] Weights or multipliers provide the number of households each one of the surveyed households represent in the data. For details on NSS sampling design and other related issues, see GOI (1983, 1988, 1994 and 1999). See also Gangopadhyay et al (1996, 1997) and Dubey and Gangopadhyay (1998).

SAMPLE SIZE AND MEASURES OF DEPRIVATION

Recall that we are using household level consumption expenditure data to measure poverty and malnutrition at the disaggregated level. Given that the households in NSSO surveys are selected through a stratified sampling design, the probability of the ST households being in the NSS sample in a large number of districts is very small. Therefore, the analysis in this paper is restricted to only selected number of districts that have substantial (50% or more) ST population.

Though there are a few studies in recent time that estimate the district level consumption and poverty incidence (Bhandari and Dubey, 2009; Chadhuri and Gupta, 2009), there are some words of caution here. First, districts in India have been undergoing constant reorganisation. As a result, the number of districts in the data during the two quinquennial rounds of surveys is vastly different. Moreover, given the NSSO sampling strategy, there are substantial number of districts where sample sizes are too small (e.g. there are 64 districts in 61st round survey that have a total of less than 100 hundred household selected for survey). In order to have comparable geographical areas to be designated as districts, therefore, we have resorted to combining the districts. As a result we could get about 280 comparable districts for tabulation that have reasonable sample size and reasonably reliable estimates of characteristics under investigation. Secondly, we have restricted reporting of the poverty measures and other indicators to the districts where the number of ST households in the NSS CES surveys is more than 100. There are about 43 'districts'[4] for which the results are reported in this paper.

For the measurement of poverty, there are two indispensable requirements, welfare profile of the population and poverty norm. In this paper household consumption expenditure data, arguably the best suited for measuring level of living and poverty, collected by the NSSO is being used. The other requirement is a suitable poverty norm. The issue of a suitable poverty norm is contentious. Several aspects of poverty norm--- its specification, spatial variation, adjustment for temporal change and spatial variation in prices has been hotly debated in the literature.[5] We have kept away from these issues and adopted the poverty norm used by the Planning Commission, Government of India for calculating poverty incidence for 1993-94 and 2004-05.[6]

Another matter of detail is the comparison of the consumption expenditure over the two time points in this paper. NSSO collects consumption expenditure data in nominal rupees. For comparison over time or across states, one needs to convert the nominal expenditure at constant prices. One can use several alternative deflators here, for example, implicit price deflator from GDP at the all India level or from net state domestic product (NSDP) or from aggregate private final consumption expenditure. The main limitation of these deflators is that these are available for state as a whole. Since there are significant differences in rural and urban prices[7], we need a deflator separately for the two sectors.

We have converted the nominal PCTEs at constant (1993-94) prices. The price deflator that we used to covert the household expenditure at constant prices is implicit price deflator derived from the state-wise poverty line for two sectors separately. This is equivalent to deriving a deflator using state and sector-wise CPIs. The value of deflator is defined as

[4] Although there are more districts that have over 50% ST population, for comparability of geographical areas and reliability of estimates, these districts have been merged to create fewer comparable geographical domain that are being referred here as districts.

[5] See GOI (1979, 1993), Minhas et al (1987, 1988), Dubey and Gangopadhyay (1998), Deaton and Tarozzi (1999), Deaton (2003) for details on these issues.

[6] The choice of a particular poverty norm does make any qualitative difference in the measurement of poverty (Dubey and Gangopadhyay (1998).

[7] See Bhattacharya et al (1969) on this issue.

$$Def_t = \frac{PL_t}{PL_{93-94}}$$

In this paper the incidence of poverty in the two sectors and among different social groups is captured using only one measure, Head Count Ratio (HCR).[8]

In addition to measurement of consumption expenditure and poverty incidence, in this paper the incidence of malnutrition is also discussed. Malnutrition is a situation where a person is not able to consume enough food which provides the normatively food energy for metabolic process in the body, measured in calories. In CES surveys, NSSO collects information on quantity as well as value of various food items consumed by the households. While it is straight forward to calculate the calorie consumption from quantity of food consumed by the household, the normative requirement is contentious. I have used the methodology for calculating normative calorie requirement at the individual level from the Task Force report (GOI, 1979) but modified it substantially by taking into account the age-sex-activity pattern at two-digit NCO classification along with consumer units in 1993-94 and 2004-05 separately from NSSO EUS data. The main reason for modifying the Task Force methodology is differential occupational structure across place of residence and social groups.

3. Consumption and Poverty Incidence: Aggregate Level

As pointed out in the last section, unlike the SCs, the ST population is unevenly distributed across districts in India. Based on the population share in the districts, I have created six groups of districts. Group 0 are the districts which have no ST population whereas group 1 has less than two percent ST population (see appendix table 1 for the ST population share in the districts). In table 2, the mean per capita consumption expenditure for STs, SCs and OTH groups is reported for the 50th and 61st rounds.

First panel in table 2 shows the hierarchy in mean consumption expenditure discussed above. Mean consumption of STs as a group is less than 64% of the OTH group comprising of non-SC and non-ST population. Compared to STs, SCs are marginally better off at about 72% of OTH mean consumption expenditure. When we look at the mean expenditure of STs by the share in the population, with lower share of population (groups 1, 2 and 3), STs are marginally better of than the average and in group 4, where STs have numerical majority, the mean consumption of STs is about 20% higher than the OTH group. Curious result is in case of less than majority population (group 5) where mean consumption of STs is lowest at 54%. If the population group dominance argument is used to scrutinize these results, then until a group has majority in the population, its participation in the income earning and growth is severely hindered. The calculations reported in table 2 suggest that there is substance in the dominance hypothesis.

The other surprising result is the level of inequality as captured by the Gini coefficient. The distribution is most equitable where STs are dominant group and it is the most unequal where there is substantial but less than majority ST presence (group 5 in table 2).

[8] There are several other indices that are prescribed in the literature, e.g. Poverty Gap Index (PGI), Foster Greer and Thorbecke (FGT) Index, Sen Index etc. We have used HCR as our objective is to highlight the disparities across social groups. Moreover, at least first two indices, PGI and FGT, show a similar variation and trend.

Table 2: Mean Per Capita Consumption and Inequality in Consumption

Share ST in Pop	61st Round (at 1993-94 prices)					
	ST	SC	OTH	Total	ST as % OTH	Gini
0		287	384	362	0.0	0.335
1	317	303	437	406	72.5	0.360
2	263	286	390	358	67.4	0.321
3	264	303	379	346	69.7	0.327
4	423	352	354	390	119.5	0.242
5	224	296	414	330	54.1	0.376
Total	**265**	**298**	**416**	**379**	**63.7**	**0.351**
	50th Round					
0		244	336	316	0.0	0.307
1	274	265	367	344	74.7	0.340
2	261	244	337	314	77.4	0.316
3	227	252	320	290	70.9	0.286
4	337	275	279	304	120.8	0.237
5	228	266	371	306	61.5	0.329
Total	***247***	***258***	***353***	***325***	***70.0***	***0.326***

Source: Special tabulation by the author from NSSO CES unit record data, 1993-94 and 2004-05.

The second important message from table 2 is the worsening of disparities. The ST-OTH difference in real mean consumption declined by over six percentage points in 2004-05 over 1993-94. And this decline is experienced by the STs in all population regimes, marginal to dominant and accompanied by rise in inequalities in the consumption expenditure.

Table 3: Average Annual Change in Mean Per Capita Consumption

Share ST in Pop	2004-05 over 1993-94			
	ST	SC	OTH	ALL
0		1.6	1.3	1.3
1	1.4	1.3	1.7	1.6
2	0.1	1.6	1.4	1.3
3	1.5	1.8	1.7	1.8
4	2.3	2.5	2.4	2.6
5	-0.2	1.0	1.1	0.7
Total	***0.7***	***1.4***	***1.6***	***1.5***

Source: As in Table 2.

Table 3 reports the average annual change in the consumption expenditure over the two rounds. The average annual change among the STs has been less than half of what has been among the OTH group. Out of different ST populations share groups, it is only among the districts which have majority ST population, the growth has not only been significantly higher but is comparable to OTH group. The question is what is it that is driving this even among the SCs in ST dominated districts which other-wise have marginally lower growth in consumption expenditure. One of the reasons could be the migrant SCs in the ST dominated districts who migrate with better human capital endowment. Another possible reason could be the equal opportunities that come to both groups and possibly the ST attitude towards SCs are less or non-discriminatory.

Table 4: Head Count Ratio in 1993-94 and 2004-05

Share	Head Count Ratio in 2004-05			Head Count Ratio in 1993-94		
ST in Pop	ST	OTH	ALL	ST	OTH	ALL
0		26.0	29.5		32.2	36.7
1	32.8	21.1	24.6	46.0	29.9	33.9
2	40.6	21.5	26.8	47.6	30.4	35.3
3	39.5	25.1	29.3	54.1	33.4	39.9
4	7.5	19.9	13.0	25.3	42.3	34.8
5	56.5	28.0	40.5	53.4	29.0	40.2
Total	***43.8***	***22.8***	***27.6***	***49.7***	***30.7***	***35.8***

Source: As in Table 2.

In table 4, poverty incidence (head count ratio) is reported. Going by the disparities in mean consumption and inequality, HCRs mirror similar pattern and inter-group difference. In 2004-05, the ST-OTH difference in HCR is 21 percentage points at the aggregate level. Going by the share of ST population among the districts, for less than majority population of STs in the districts, the poverty ratios are higher with largest gap (over 28 percentage points) between the two groups is for the districts which have less than majority population and are located in the so called major states. Another key observation is the substantially lower incidence of poverty among the districts that have STs as the largest population group. This appears to be the direct consequence of higher mean per capita consumption among these districts coupled with lower level of inequality.

The temporal change in poverty incidence in 61st round over 50th round is consistent with changes in the mean consumption expenditure and inequality. The key message from the table is that the disparities in poverty incidence between STs and OTH have increased marginally over the rounds. This is driven largely by the increase poverty incidence in the group five districts as all other groups have experienced reduction in poverty. While poverty has declined for all the groups except five, it is the ST dominated group of districts which has benefited most from the growth.

Table 5 below has mean calorie consumption, mean normative calorie requirement and incidence of malnutrition among six groups of districts discussed above. Invariably, the average calorie requirements are marginally higher for the STs compared to OTH which could be due to occupational patterns among the ST population--- a larger proportion is engaged in primary sector activities. Compared to the normative requirement, the mean food energy consumption is consistently higher for OTH group across all the groups except group 4. When these two indicators are combined to check the incidence of malnutrition, results are not surprising at all. Among the STs, incidence of malnutrition is over 15 percentage points more than the OTH. It may, however, be noted that the normative calorie requirement is another debatable issue and is beyond the scope of this paper.

Table 5: Average Calories Requirement and Consumption and Incidence of Malnutrition (2004-05)

Share	Avg cal requirement		Avg calorie consumption		% Undernourished		
ST in Pop	ST	OTH	ST	OTH	ST	OTH	ALL
0		2113		2108		58.8	60.4
1	2151	2134	1976	2100	69.8	60.1	62.5
2	2158	2153	1902	2083	73.9	63.3	65.9
3	2178	2164	1913	2061	74.5	64.3	67.1
4	2223	2171	2146	2140	65.9	59.9	63.2
5	2194	2183	1858	2027	82.6	70.0	75.7
Total	***2184***	***2141***	***1914***	***2089***	***76.8***	***61.6***	***64.6***

Source: As in Table 2.

3. Consumption, Poverty Incidence and Malnutrition: Districts

As pointed out earlier, there are only 43 districts for which the district level calculations are reported. These 43 districts have been created from a total 126 districts that account for over 21% of total districts in India. These 126 districts (43 after merging contiguous districts) account for over 12% of total population but have 54% of total ST population. Thus, the calculations in this section cover about 12% of total population and over 54% of total population of India.

In table 6, the mean per capita consumption expenditure is reported for STs and OTH for the 50^{th} and 61^{st} rounds. There seven districts in which mean consumption of STs either at par or higher than OTH. Compared to these, there six districts with substantial ST population that have highest ST-OTH disparities.

There some very interesting observation that are emerging from this table. Firstly, the location of the districts is quite distinct. Most of the districts where ST-OTH gap is favoring STs are located in north-eastern region. These are smaller states that fall under VI Schedule or the dominant tribal population among the districts makes them fall under the Vth Schedule. One of the specific provisions of VI Schedule states is incidence of direct taxes where indigenous population is exempted from paying individual direct taxes. Secondly, the districts with largest ST-OTH gap in mean consumption are located in major states, Gujarat, Madhya Pradesh, Maharashtra, Orissa and Rajasthan. Thirdly, out of the major states which have the largest ST-OTH consumption differences, Gujarat, Maharashtra and Rajasthan have benefited most from the recent episode of liberalization and economic growth. Clearly, the participation of STs in growth is not happening even in the fastest growing states.

Table 6: Mean Consumption and Disparities in Consumption

State-dist code	State	1993-94		2004-05 (1993-94 prices)		ST-OTH50	ST-OTH61	AAC-ST	AAC-OTH
		APCTE-ST	APCTE-OTH	APCTE-ST	APCTE-OTH				
301	APR	302	664	465	598	45.5	77.8	4.9	2.6
302	APR	378	591	547	479	64.0	114.2	4.1	-1.1
303	APR	251	318	362	374	78.9	96.8	4.0	0.3
401	ASS	260	232	326	277	112.1	117.7	2.3	-1.4
403	ASS	257	266	358	362	96.6	98.9	3.6	0.1
406	ASS	252	309	371	409	81.6	90.7	4.3	0.9
410	ASS	259	326	270	359	79.4	75.2	0.4	3.0
518	JHA	220	287	219	284	76.7	77.1	0.0	2.7
523	JHA	274	390	222	257	70.3	86.4	-1.7	1.4
524	JHA	279	445	289	390	62.7	74.1	0.3	3.2
707	GUJ	229	311	237	450	73.6	52.7	0.3	8.2
713	GUJ	322	416	312	630	77.4	49.5	-0.3	9.3
714	GUJ	279	472	357	644	59.1	55.4	2.5	7.3
1306	MPR	201	344	196	321	58.4	61.1	-0.2	5.8
1309	MPR	224	424	234	579	52.8	40.4	0.4	13.4
1313	MPR	205	315	207	326	65.1	63.5	0.1	5.2
1314	MPR	207	452	173	230	45.8	75.2	-1.5	3.0
1315	CHH	205	261	204	297	78.5	68.7	0.0	4.1
1316	CHH	227	299	283	327	75.9	86.5	2.2	1.4
1317	CHH	213	301	240	267	70.8	89.9	1.2	1.0
1318	CHH	197	300	178	355	65.7	50.1	-0.9	9.0
1402	MAH	309	635	249	632	48.7	39.4	-1.8	14.0
1405	MAH	180	283	188	344	63.6	54.7	0.4	7.5
1501	MAN	295	405	327	325	72.8	100.6	1.0	-0.1
1601	MEG	396	527	450	706	75.1	63.7	1.2	5.2
1602	MEG	351	377	390	437	93.1	89.2	1.0	1.1
1701	MIZ	442	698	603	601	63.3	100.3	3.3	0.0
1702	MIZ	431	404	487	406	106.7	120.0	1.2	-1.5
1801	NAG	499	499	778	618	100.0	125.9	5.1	-1.9
1802	NAG	426	505	618	1060	84.4	58.3	4.1	6.5
1901	ORI	218	287	170	258	76.0	65.9	-2.0	4.7
1902	ORI	185	343	187	426	53.9	43.9	0.1	11.6
1903	ORI	193	317	218	344	60.9	63.4	1.2	5.3
1907	ORI	169	218	168	225	77.5	74.7	-0.1	3.1
1908	ORI	168	326	143	355	51.5	40.3	-1.4	13.5
2110	RAJ	378	365	255	445	103.6	57.3	-3.0	6.8
2111	RAJ	237	427	227	454	55.5	50.0	-0.4	9.1
2201	SIK	285	298	340	357	95.6	95.2	1.8	0.5
2202	SIK	356	345	556	531	103.2	104.7	5.1	-0.4
2401	TRI	316	404	321	430	78.2	74.7	0.1	3.1
2402	TRI	300	368	248	310	81.5	80.0	-1.6	2.3
2901	DAD	214	594	287	779	36.0	36.8	3.1	15.6
3201	LAD	523	556	727	861	94.1	84.4	3.5	1.7

APCTE: Average Per Capita total Expenditure
AAC: Average Annual Change in Mean Per Capita Consumption

Source: As in Table 2.

The differences in consumption could persist between population groups for some more time even if different groups get equitable share from the surging economic growth. Table 6, though, suggests otherwise. In these six districts (with highest ST-OTH consumption gap), the ST-OTH gap has increased during 1993-94 and 2004-05. The annual average change in mean real consumption expenditure over the two time points suggests that the largest increase in APCTE (over 10 percent per annum) is recorded among the OTH groups in the six districts that have largest ST-OTH mean APCTE difference. Compared to this, the annual average increase in the real mean consumption among the STs in the districts that have favourable gap (ST-OTH) in mean consumption has experienced highest growth though substantially lower than the OTH group in the districts that have largest ST-OTH gap. In fact, there is perceptible decline in mean consumption of OTH groups that have dominant ST population group and located in northeastern region.

The patterns observed in the mean consumption expenditure and changes therein are reflected in the incidence of poverty and mean calorie consumption reported in table 7. Given that districts located in northeastern region have experienced significant growth in mean consumption and ST-OTH difference favouring STs in these districts, the level of poverty in these districts is substantially lower compared to the districts with sizeable ST population but located in major states. For example, among 16 districts that have less than 10% HCR, all are located in northeast with three districts reporting no poverty at all.

On the other hand, the highest incidence of poverty (over 84%) is recorded in xxx district located in Orissa. In fact out of seven districts that have more than 70% incidence of poverty, four districts are in Orissa, two in Chhatisgarh and one in Madhya Pradesh. Additional ten districts have poverty incidence in the range of 50-70 percent and these are located in Chhatishgarh, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra, Orissa and Rajasthan.

There are two other important issues that emerge from this table. One, there is substantial ST-OTH disparity in poverty incidence too (as observed earlier in mean real consumption). Secondly, there is some kind of inertia in the poverty incidence, as the high level of poverty incidence in some of the districts continues to be there despite impressive economic growth path that the Indian economy is on for over last 15 years.

Table 7: Incidence of Poverty and Mean Calorie Consumption

State	State dist code	61st		50th		Mean Calorie Consumption (2004)		
		HCR ST	HCR OTH	HCR ST	HCR OTH	ST	OTH	% Malnourished
APR	301	7.4	0.6	36.3	8.5	2241	2300	64.9
APR	302	5.0	10.5	44.0	1.6	2586	2202	55.2
APR	303	22.2	14.2	52.1	30.7	2330	2060	67.7
ASS	401	15.3	40.4	6.8	65.2	2053	2052	72.1
ASS	403	4.5	6.5	32.1	37.8	2230	2193	47.2
ASS	406	8.4	8.2	37.7	21.2	2287	2257	40.5
ASS	410	25.5	2.2	44.8	23.3	2004	2121	70.3
JHA	518	64.6	46.7	55.9	44.1	1916	2011	67.4
JHA	523	59.0	59.2	45.7	25.4	1677	1700	84.1
JHA	524	29.3	13.2	38.2	15.9	2221	2205	49.0
GUJ	707	52.9	15.2	48.3	25.5	1949	2069	65.9
GUJ	713	29.1	5.9	5.3	17.3	1728	1982	77.1
GUJ	714	14.9	5.6	22.5	18.4	1605	1871	90.1
MPR	1306	73.1	30.2	58.3	22.7	1782	1992	81.1
MPR	1309	50.6	20.3	53.4	29.9	1936	2118	66.4
MPR	1313	57.8	35.6	69.1	36.0	1818	2106	74.2
CHH	1314	78.5	48.7	46.2	42.9	1734	1901	84.7
CHH	1315	51.9	43.5	55.9	46.3	1893	2053	74.8
CHH	1316	40.6	26.6	57.6	42.3	1847	2051	72.6
CHH	1317	34.7	29.1	40.8	19.2	2050	2051	74.8
CHH	1318	72.0	46.7	62.4	46.4	1660	1941	81.8
MAH	1402	60.2	15.9	16.1	7.6	2811	1809	81.6
MAH	1405	62.8	26.4	70.5	31.7	1705	1915	81.4
MAN	1501	7.0	5.2	26.5	0.0	2379	2544	64.5
MEG	1601	3.3	0.0	4.8	2.8	1769	2042	94.6
MEG	1602	3.6	0.0	35.0	41.9	1972	2029	88.0
MIZ	1701	0.0	0.0	3.4	0.0	2107	2147	74.1
MIZ	1702	3.7	0.0	6.2	0.0	2707	3488	58.4
NAG	1801	0.0	0.0	1.2	0.0	2232	1746	66.6
NAG	1802	0.0	0.0	2.3	0.0	2165	2388	63.6
ORI	1901	79.9	55.2	49.7	33.5	1727	1909	85.9
ORI	1902	70.5	15.3	72.7	30.9	1860	2270	69.9
ORI	1903	63.3	33.7	67.4	21.4	2045	2248	59.5
ORI	1907	79.1	63.6	75.7	57.0	1810	1838	87.5
ORI	1908	84.7	43.9	78.1	47.7	1522	1914	86.8
RAJ	2110	34.1	14.1	53.2	20.4	1943	2291	65.7
RAJ	2111	51.1	7.3	54.0	16.9	1794	2892	72.0
SIK	2201	20.7	19.6	30.3	29.7	1912	1879	86.1
SIK	2202	6.3	8.3	37.7	24.0	2073	1973	73.4
TRI	2401	32.6	15.1	29.2	11.4	1855	1990	73.8
TRI	2402	44.7	36.0	43.3	21.6	1789	1880	81.4
DAD	2901	44.3	5.2	58.5	6.6	1660	1942	84.6
LAD	3201	6.3	0.0	9.3	0.0	2523	2963	26.9

Source: As in Table 2.

5. Conclusion and Policy Issues

In this paper levels and changes of mean consumption expenditure and poverty incidence is reported for two time points, 1993-94 and 2004-05 at the district level. The focus of the analysis has been the level and change in consumption and poverty among STs and the disparities in these two indicators STs and other population groups (OTH).

The analysis in this paper reaffirms the existence of large disparities in mean consumption and poverty incidence between ST and OTH population groups. At the aggregate levels, the worrying factor is the rise in the ST-OTH disparities on both the indicators. Average annual change in mean consumption of STs is substantially lower than the growth experienced by the OTH group which is fostering the disparities. Clearly, the post -1991 economic growth has not been inclusive.

The small proportion of STs who have benefited during this period are located in the areas that have majority ST population and enjoy various constitutional privileges including governance. Though detailed sectoral growth data is not available at the district level, location of these districts (where STs are dominant population group) in Schedule V and VI areas seems to have helped. In most of these Scheduled areas, the service sector led growth has benefited the STs.

The deprivation levels of STs residing in major states and with less than majority ST population appear to be the most vulnerable groups among all STs. Incidence of poverty in excess of 50% among the districts with substantial ST population and located in the states that are recognised as the most investor friendly and have been fastest growing, Gujarat and Maharashtra, suggests non-participation of STs in current episode of economic growth. The analysis also indicates that that some of these districts do not fall in economically stagnating regions and benefits of growth is concentrating among the majority OTH and fostering inequality. Clearly, a lot more is desired than "inclusive growth" approach adopted in the current Five Year plan.

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Appendix Tables

Table A1: Sample Size and Population Distribution

Share	61st round				50th round			
ST in Pop	ST	SC	OTH	Total	ST	SC	OTH	Total
0 (0)	0	2,088	8,450	10,538	131	2,313	9,595	12,045
1.7 (1)	900	10,682	45,001	56,583	1,558	9,651	44,700	55,954
9.1 (2)	1,159	2,658	12,376	16,193	859	2,135	10,957	13,956
16.0 (3)	1,930	2,428	10,547	14,905	1,904	2,233	9,139	13,283
52.5 (4)	7,805	254	2,275	10,334	5,375	180	1,879	7,440
36.6 (5)	4,616	1,951	8,356	14,923	3,634	1,792	7,284	12,716
Total	**16,410**	**20,061**	**87,005**	**123,476**	**13,461**	**18,304**	**83,554**	**115,394**

Note:

(1) Share of STs in total population has been estimated from NSS CES unit record data for 61st round

(2) Numbers in parenthesis are serial number corresponding to ST population share and used in the tables.

Source: Special tabulation by author using NSS CES unit record data for 61st round.

Table A2: State and Districts

State	State district code	Districts	Merged Districts	Sample	
				ST	Total
Aru.Pradesh	301	Tawang	West Kameng, East Kameng, Papum Pare, Lower Subansari, Upper Subansari	604	827
Aru.Pradesh	302	West siang	East Siang, Dibang Valley, Upper Siang	406	600
Aru.Pradesh	303	Lohit	Changlang, Tirap	311	616
Assam	401	Dhubri	Kokrajhar, Bongaigaon	115	530
Assam	403	Nalbari	Darrang	122	420
Assam	406	Lakhimpur	Dhemaji, Jorhat	123	420
Assam	410	Karbi anglong	North Cachar Hills	172	240
Jharkahnd	518	Deoghar	Dhanbad, Bokaro	147	600
Jharkahnd	523	Ranchi		282	280
Jharkahnd	524	Purbi singhbhum		127	240
Gujarat	707	Sabarkantha	Gandhinagar, Panchmahals, Dohad	149	597
Gujarat	713	Surat		101	438
Gujarat	714	Valsad	The Dangs, Navasari	148	280
Madhya Pradesh	1306	Satna	Rewa, Shahdol, Sidhi, Umaria	164	720
Madhya Pradesh	1309	Jhabua	Dhar, Indore	256	517
Madhya Pradesh	1313	Narsimhapur	Chhindwara, Seoni	109	400
Madhya Pradesh	1314	Mandla	Balaghat, Dindori	112	360
Chhattisgarh	1315	Surguja	Koriya	166	320
Chhattisgarh	1316	Bilaspur	Korba, Jahangir-Champa, Kawardha	117	757
Chhattisgarh	1317	Raigarh	Jashpur	115	280

State	State district code	Districts	Merged Districts	Sample	
				ST	Total
Chhattisgarh	1318	Rajnandgaon	Durg, Bastar, Kanker, Dantewada	300	879
Maharashtra	1402	Thane		128	946
Maharashtra	1405	Dhule	Nandurbar	125	320
Manipur	1501	Senapati	Tamenglong, Churachanpur, Chandel, Ukhrul	1144	1,217
Meghalaya	1601	East Khasi Hills	Jaintia Hills, Ri-Bhoi	661	720
Meghalaya	1602	West Khasi Hills	East Garo Hills, West Garo Hills, South Garo Hills	739	876
Mizoram	1701	Aizawl	Mamit, Kolasib, Serchip	1095	1,113
Mizoram	1702	Lunglei	Chhimtuipui, Lawngtlai, Saiha	775	799
Nagaland	1801	Kohima	Dimapur	373	440
Nagaland	1802	Phek	Zunheboto, Wokha, Mokokchung,Tuensang, Mon	828	840
Orissa	1901	Sambalpur	Balangir, Baragarh, Jharsuguda, Debgarh, Sonapur	140	757
Orissa	1902	Sundargarh	Kendujhar	211	440
Orissa	1903	Mayurbhanj		111	240
Orissa	1907	Phulabani	Kalahandi, Baudh, Nuapada	128	460
Orissa	1908	Koraput	Raygada, Nabarangapur, Malkangiri	279	540
Rajasthan	2110	Udaipur	Rajsamund	108	360
Rajasthan	2111	Dungarpur	Chittaurgarh, Banswara	165	439
Sikkim	2201	North district	South District, West District	286	640
Sikkim	2202	East district		153	480
Tripura	2401	West tripura		263	1,120
Tripura	2402	North tripura	South Tripura, Dhalai	229	1,200
DAD	2901	Dadra & nagar haveli		150	240
Lakshadweep	3201	Lakshadweep		184	199